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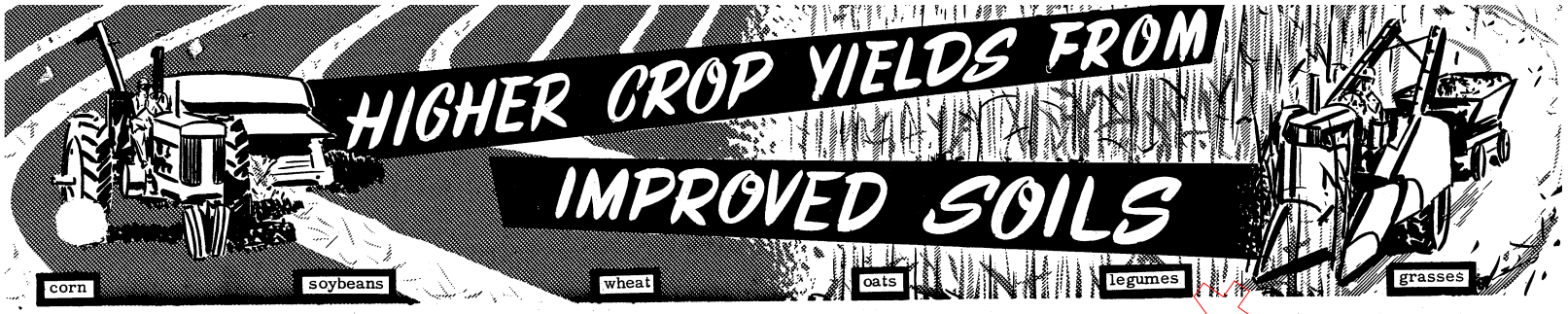
Supplementary Hay and Pasture Crops

Purdue University Cooperative Extension Service



Purdue University
Agricultural Extension Service

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SUPPLEMENTARY HAY AND PASTURE CROPS

Division of Agronomy

Planting Table for Supplementary Pasture and Hay Crops*

Crops	Use	Time to sow or plant	How to sow or plant	Amount seed per acre	Approx. time ready	Approx. grazing period
Rye, Wheat or winter barley	Silage Pasture	Aug. 20 Oct. 1	Drill or broadcast	1½ to 2 Bu.	October spring	Late fall Early Spring
Oats, Winter	Silage, Hay or	Aug. 15 to Oct. 1	Drill or	2½ to 3 Bush-	Late Fall	Early Spring
Oats, Spring	Pasture	Mar. 1 to Apr. 15	Broadcast	els	May 1 May 15	4-6 weeks
Rape	Pasture	Mar. 15 July 1-	Rows or broadcast	2 to 6 pounds	June 1- Aug. 15	2-4 months
Rye Grass	Hay or pasture	Aug. 1 Sept. 15	Drill or broadcast	15 to 20 lbs.	Late Fall spring	2-3 months
Lespedeza	Pasture	Feb. - April	Broadcast	10 to 20 lbs.	July 1- Aug. 1	Until killing frost
Sudan Grass	Silage or pasture	May 15 to July	Drill or broadcast	25 to 30 lbs.	July 1- Aug. 1	Until frost
Soybeans	Hay	May 10 June 30	Drill	1½ to 2 bu.	Aug. 15 Sept. 15	---
Millet	Hay	June 1 July 15	Drill	2 pecks	In 75 days	---
Alfalfa Ladino Clover	Hay pasture or silage	Spring or late summer	Drill or broadcast	8 to 12 lbs. 1 lb.	Lightly to Sept. 1	4 to 6 mos., 2nd year on
Sweet Clover or Red Clover	Pasture pasture	Feb. 1 Apr. 15	Drill or broadcast	8 to 12 lbs. 8 to 10 lbs.	1st year to Sept. 1	S. Cl. to Aug. R. Cl. May-Oct.

* The dates of sowing and the amounts of pasture furnished by each crop vary in different parts of the state. In general the earlier dates of planting are for the southern section and the later dates for the northern section of Indiana. All seed of all legumes not previously grown should be inoculated.

SUPPLEMENTARY HAY AND PASTURE CROPS NEEDED

Shortage of hay and pasture due to failures of rotation hay or pasture crops or to the effects of summer droughts on permanent pasture make the use of supplementary crops necessary. Soybeans for hay, oats, or rye grass for early pasture, Sudan grass for summer pasture for cattle and hogs, Korean lespedeza in small grains for stubble pasture, and rape for hog pasture are the leading crops that can be sown in spring or early summer to provide the best results for the season. Choice of emergency pasture crops is influenced by the soil, kind of livestock, and time when pasture is needed. See front page table for rates of seeding, etc.

Production and Use

Rye furnishes some fall pasture if seeded about September 1, and furnishes earlier grazing in the spring than any of the grasses or legumes. Balbo rye is preferred as it makes earlier and more vigorous fall and spring growth than common rye. It is a "sweet" rye and produces little taint to the milk compared to common rye. Its use will relieve permanent pastures of too early spring grazing. It is unpalatable for pasture after it starts to head. Rye should be drilled at 6 pecks per acre. Seeding rye broadcast in corn in early fall by plane is a rapid and sometimes satisfactory seeding method. Rye may be seeded for pasture in old meadows the fall before being plowed for corn or in alfalfa for early spring pasture. Tetra-Petkus, a new rye from Germany is promising for pasture. It is a vigorous grower, starting later but furnishing grazing longer than Balbo. Large grain size may require a heavier seeding rate than Balbo.

Wheat seeded after the fly free date may be grown in the usual way and used for pasture. It is not ready for pasture as early in the spring as rye but furnishes pasture later into the spring. Wheat grown for grain may be pastured lightly in the spring without serious injury if growth is well advanced and soil is dry enough.

Winter oats seeded early, August 15 to September 15, are winter hardy only south of Highway 50. Winter barley is more winter hardy, but requires a limed, well-drained soil. Either of these will furnish good pasture in the fall or early spring. Limited spring grazing may be followed by harvesting a grain crop. Winter oats will make a good tonnage of early cut silage. They make good use of winter and spring moisture.

Spring-seeded oats will furnish good pasture in spring and early summer, but are better adapted to northern than to southern Indiana. For hog pasture add rape to improve the quantity and quality of the grazing. Early seeding is important. Oats for hay should be cut in the soft-dough stage, and for silage in the milk to early dough stage.

Domestic Rye Grass is a winter annual or short-lived perennial, suitable for pasture or hay in southern Indiana. It is not as winter hardy as winter wheats. Rye grass roots heavily and grows very rapidly, making it very desirable for erosion control and quick pasture. Seeding cost is low. It may be seeded after any tilled crop that comes off in time, or seeded in lespedeza stands, with or without seed bed preparation. It may be seeded at the last cultivation of corn and to late September.

Rye grass may also be seeded in the spring, primarily as a nurse crop for other grasses and legumes, where summer pasture is needed. When used in this way a maximum of 5 lbs. of seed per acre should be used. For futher information see Purdue Agronomy Mimeograph No. 19.

Rape is one of the best pasture crops for hogs. It grows best in cool weather and will endure severe frosts in the fall without injury. Rape prefers rich, sweet land, and is at home on very fertile or heavily manured soils such as in feed lots. If seeded in rows, 2 or 3 lbs. per acre are required; if broadcast, 4 to 6 lb. For late summer pasture rape may be broadcast with oats.

Rape should be 12 to 15 inches high before pasturing with large hogs and 8 inches high for pigs. If plants are too small, hogs may pull them up. Best results will be secured if rape pasture is divided into two or more parts and pastured alternately. When this is done, an acre of rape often supplies enough forage for 15 to 20 one-hundred-pound shotes. Dwarf Essex rape is the variety preferred. Rape is not desirable for cattle and may cause bloat in both cattle and sheep.

Annual Lespedezas are primarily pasture crops, although enough growth for hay is made on good soil in southern Indiana by mid-August under favorable growing conditions. Japanese lespedeza is adapted to southern Indiana only. Korean is earlier maturing and taller and may be used in any part of the State. Fields may be pastured during the first year. A full stand the year of seeding requires 15 to 20 lbs. of seed per acre. Seedings should be broadcast in early spring in much the same way as red clover. Lespedezas may be seeded on thin pastures, or used in pasture mixtures in rotations. Detailed information is in Purdue Extension Bulletin 258.

Lespedeza Sericea, a perennial, does not make sufficient growth the first year to be used as a hay or pasture crop.

Sudan Grass is the best summer-seeded temporary pasture crop for Indiana. The seed is usually cheap and readily available. The crop is palatable to all classes of livestock and is especially desirable for cattle. Sudan grass is highly drouth resistant and thrives under high temperatures. It stands pasturing better than most summer pastures and comes in at a time when regular pastures are failing.

The grain drill set at $2\frac{1}{2}$ to $3\frac{1}{2}$ pecks per acre for wheat should sow from 25 to 30 lbs. of Sudan grass seed. Sudan grass is a hot weather plant and should be sown after corn is planted. Although usually ready for pasture in six weeks, the crop should be 12 to 15 inches high before pasturing. Sudan grass will continue growth until killing frosts, after which time it should not be pastured, although it may be saved for hay. There is less danger of stock poisoning in pasturing Sudan grass than with other sorghums. In a succession of pasture crops, Sudan grass should be ready to graze about the time blue grass or oats cease to provide succulent pasture. Two new varieties, Greenleaf and Piper, have produced more forage in Indiana and are more resistant to leaf diseases than the common Sudan grass. They start faster than sweet sudan.

As hay, Sudan grass is somewhat better than timothy in feeding value, but far more difficult to cure.

Sorghums: Forage sorghums or sorgos are higher yielding for silage than corn, and are highly palatable when used as fodder. Sorghums are drouth and heat resistant, and the leaves and stalks remain green after the seed has matured so they can be ensiled over a longer period than corn. Seed should be treated with Ceresan to prevent smut. Drill in rows 34 to 42 inches apart at the rate of 5 to 8 lbs. per acre, soon after corn planting.

Good varieties are as follows: For Northern and Central Indiana, --Norkan; and for, Southern Indiana, - Atlas. Norkan and Atlas have excellent standing ability. Further information is in Agronomy Mimeograph 15.

A mixture of Soybeans and Sudan grass has little if any advantage for pasture over straight Sudan. For grass silage, sweet sudan is preferred for mixtures with soybeans because its slower early growth gives soybeans a better chance.

Soybeans can be grown on any Indiana soil and will be ready for hay harvest within 90 days after planting. Their general adaptation and good yield of high protein hay should make soybeans the first choice of emergency hay crops under most conditions.

Good seed bed preparation as for corn, weed control before planting, inoculation of seed, shallow planting and cultivation are important factors contributing to success with soybeans. Solid planting for hay at one and one-half to two bushels per acre is usually practiced, although the amount should vary with size of seed. In central Indiana, Lincoln, and in southern Indiana, Kingwa and Wabash are satisfactory varieties.

For maximum hay and feed production, the seed should be well formed in the pods before the hay is cut. Curing may be in the swath, windrow, or shock. Fuller information is in Purdue Extension Bulletin 231.

Alfalfa sown in late winter or early spring on sweet soil under favorable conditions may make enough growth to permit pasturing or cutting for hay the first year in southern Indiana. The vigor of the stand may be reduced by cutting or pasturing the first year; therefore, alfalfa cannot be recommended generally as an emergency hay crop. A sweet soil, drainage, fertility and inoculation must be provided for this crop. Fuller information is in Purdue Extension Bulletin 242.

Sweet Clover may be cut for hay in late September of its first year. if it makes sufficient growth. At this stage it approximates alfalfa in feeding value, but not in palatability. It makes a productive pasture and may be grazed after it is 6 to 10 inches high with all classes of livestock. Sweet soil and thorough inoculation are essential.

Common Clovers or Ladino Clover, under favorable weather, make sufficient growth for hay or pasture during their first year of growth but cannot be depended upon regularly.

Millet may be used for summer seedings for hay, but is not as drouth-resistant as Sudan grass. Common, German, Hungarian, and other millets of the foxtail group are preferred.

Winter or Hairy Vetch is a winter annual, usually seeded with wheat or rye in early fall for soil improvement, pasture, hay, or seed. This legume has proved well adapted to sandy soils in northern Indiana. It has been grown in a limited way as a soil improvement legume in southern Indiana. It may become a weed pest, difficult to eradicate, on farms growing wheat or rye for grain. Vetch, like peas, has a vining habit of growth which makes wheat or rye, in which it is growing, difficult to harvest.

Miscellaneous Annual Forage Crops - Frequently some forgotten or little used annual forage crop is brought to light under a new name, or exploited as a wonder crop for special hay or pasture purposes. Most of these forage crops were tested years ago and found inferior to similar crops grown at that time. Sudan grass, frist exploited as "Billion Dollar Grass", is the only one of sufficient merit to include in the list of satisfactory forage crops.

Before investing in one of these highly advertised forage crops, usually sold at exorbitant prices, farmers should get in touch with their county agent or experiment station.

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